MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department of Community Health
MDCH
Jennifer M. Granholm, Governor
Janet Olszewski, Director

Editor: Susan Peters, DVM
Surveillance and Infectious Disease Epidemiology
PetersS1@Michigan.gov

April 1, 2010
Vol. 7; No. 13

New updates in this issue:

- **Michigan:** All surveillance indicators for influenza activity indicate continued low, sporadic activity.
- **National:** Georgia experiences rise in influenza-associated hospitalizations.
- **International:** Vietnam and Egypt report new human cases of H5N1 avian influenza.

****2009 Influenza A (H1N1) virus Updates****

Please continue to reference the MDCH influenza website at www.michigan.gov/flu for additional 2009 H1N1 information. Local health departments can find guidance documents in the MI-HAN document library. In addition, additional laboratory-specific information is located at the Bureau of Laboratories H1N1 page at http://www.michigan.gov/mdch/0,1607,7-132-2945_5103-213906--,00.html.

****Influenza Surveillance Reports****

Michigan Disease Surveillance System: During the week ending March 27th, aggregate influenza cases decreased and individual influenza and 2009 novel influenza case were similar to previous week's levels. All case levels were lower than the levels seen at this time last year.

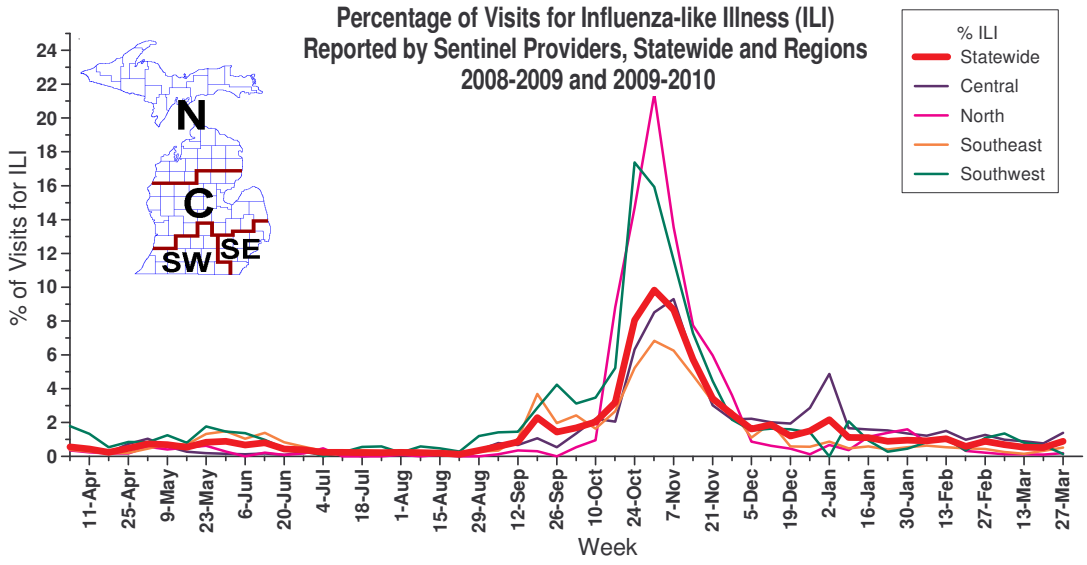
During March 21-27, 2010, 6406 cases of flu-like illness and confirmed and probable cases of seasonal and novel influenza were reported in Michigan. 2128 hospitalizations and 78 deaths associated with influenza have been reported since September 1, 2009. This report is updated every Tuesday by 5:00 pm and is accessible at "Current H1N1 Activity" on the website http://www.michigan.gov/h1n1flu.

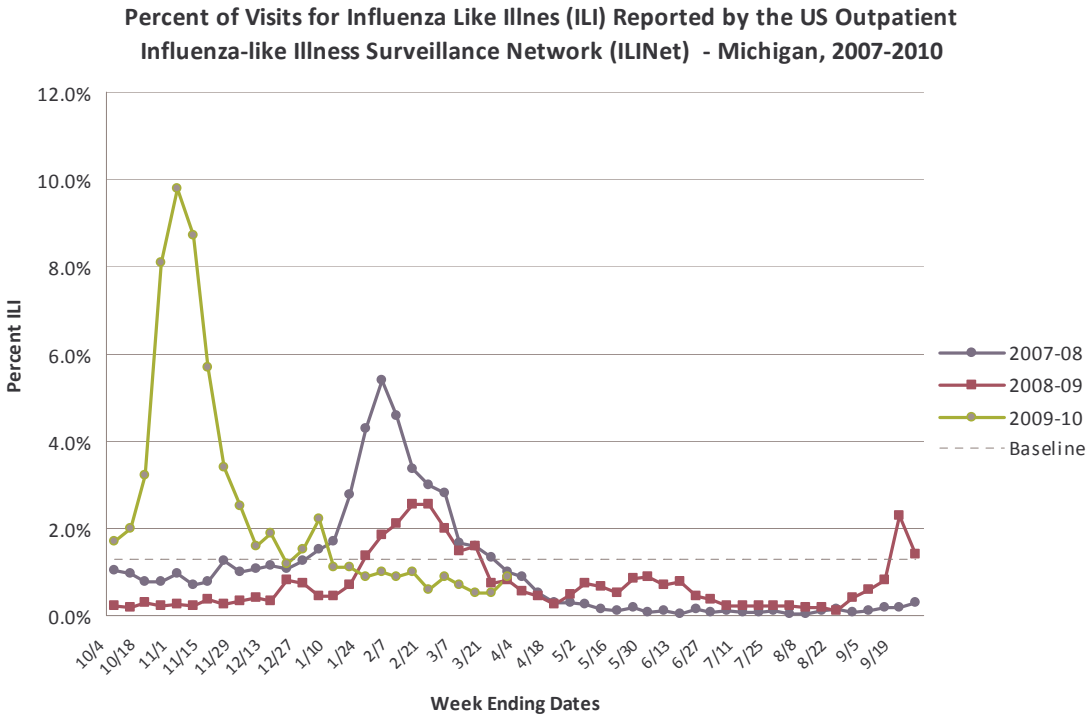
Emergency Department Surveillance: Emergency department visits from constitutional and respiratory complaints decreased slightly from the previous week's levels. Constitutional complaints were slightly lower, while respiratory complaints were slightly higher, than levels seen at this time last year. During the past week, there were two constitutional alerts in the SE(1) and N(1) Influenza Surveillance Regions and four respiratory alerts in the C(3) and N(1) Influenza Surveillance Regions.

Over-the-Counter Product Surveillance: Overall, OTC product sales were fairly steady over the past week, except for un-promoted chest rub sales, which decreased. All indicators were consistent with levels seen at this time last year.

Sentinel Provider Surveillance (as of April 1): During the week ending March 27, 2010, the proportion of visits due to influenza-like illness (ILI) slightly increased to 0.9% overall. However, activity remained below baseline levels (1.3%); 55 patient visits due to ILI were reported out of 6,267 office visits. Twenty-three sentinel sites provided data for this report. Activity increased in three surveillance regions: Central (1.4%), North (0.2%) Southeast (0.5%) and decreased in the remaining surveillance region: Southwest (0.1%). Please note that these rates may change as additional reports are received.

As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Cristi Carlton at 517-335-9104 or CarltonC2@michigan.gov for more information.





Laboratory Surveillance (as of March 27): During March 21-27, MDCH Bureau of Laboratories identified no influenza isolates. For the 2009-2010 season (starting on October 4, 2009), MDCH BOL has identified 609 influenza isolates:

- 2009 Influenza A (H1N1): 608
- Influenza B: 1

Eleven sentinel labs reported for the week ending March 27, 2010. 2 labs reported sporadic influenza A activity (C); all others reported zero influenza A positives (SE, SW, C, N). No labs reported influenza B positives. Eight labs reported sporadic or low levels of RSV positives (SE, SW, C, N), and three labs reported slightly elevated RSV positives (SW, C).

Michigan Influenza Antigenic Characterization (as of April 1): One 2009 H1N1 influenza A virus from Michigan has undergone further characterization at the CDC. This virus was characterized as A/California/07/2009 (H1N1)-like, which is the recommended strain for the H1 component of the 2010-11 Northern Hemisphere vaccine.

Michigan Influenza Antiviral Resistance Data (as of April 1): Results are currently not available for antiviral resistance at CDC for the 2009-2010 season.

Antiviral resistance testing takes months to complete and cannot be used to guide individual patient treatment. However, CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza. The guidance is available at http://www.cdc.gov/H1N1flu/recommendations.htm.

Influenza-Associated Pediatric Mortality (as of April 1): Five 2009 H1N1 influenza-associated pediatric mortalities (SE(3), SW, N) have been reported to MDCH for the 2009-2010 influenza season.

***CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of April 1): Seven congregate setting outbreaks with confirmatory novel influenza A H1N1 testing (2SE, 3 SW, 1C, 1N), and two outbreaks associated with positive influenza A tests (1C, 1N) have been reported to MDCH for the 2009-2010 influenza season. These are 8 school facilities and 1 long term care facility. Human metapneumovirus was confirmed in one outbreak in a long term care facility (SW) in February.

During fall 2009, 567 influenza-related school and/or district closures in Michigan (Public Health Preparedness Region 1 - 55, Region 2N - 4, Region 2S – 8, Region 3 - 54, Region 5 - 153, Region 6 - 100, Region 7 - 109, Region 8 - 84) were reported.

National, Surveillance (Atlanta Journal Constitution [edited], March 29): Georgia is seeing a spike in swine flu [influenza pandemic (H1N1) virus infection] hospitalizations, having the most in the country for 3 weeks in a row, federal health officials said Monday [29 Mar 2010]. It is too early to say whether Georgia or the country are seeing another wave of the illness, which had diminished across the nation for several months, the officials said.

But the number of people being hospitalized in Georgia equals the number of pandemic (H1N1) hospitalizations when the disease peaked here last September [2009]. Officials stressed that no other state is seeing such an increase. In the 1st 2 weeks of March [2010], Georgia had 80 and 72 hospitalizations respectively, according to the state Department of Community Health. In contrast, the 1st week of February 2010 saw 17 hospitalizations.

The Atlanta-based Centers for Disease Control and Prevention [CDC] was so concerned about the Georgia situation that it sent a team of researchers to investigate. CDC officials held a news conference Monday [29 Mar 2010] that focused on the Georgia problem. Georgia's increase is reflected to some degree in other southeastern states but not in other parts of the country, she said. She described the illness as "circulating intensely" here.

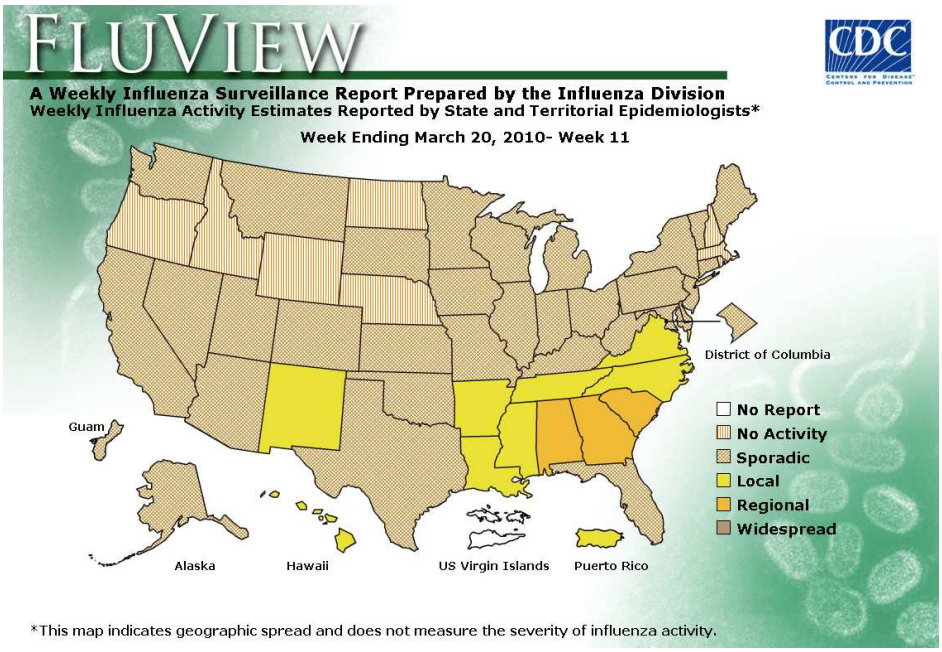
Georgia has one of the lowest immunization rates for pandemic (H1N1) influenza, Schuchat said. State officials point out that the state's immunization rate for children, however, is above average for the country. "Most of the hospitalizations that we've seen have occurred in ... adults with underlying conditions that put them at higher risks of severe influenza," Schuchat said. Underlying conditions include diabetes and heart disease.

The state health department, as well as county health departments, have been boosting their efforts to get people vaccinated, stressing that there is still an abundance of free vaccine. Last month [February 2010], the Atlanta Journal-Constitution reported that Georgia had more than 2.5 million doses of swine flu vaccine left. Less than 1/3rd of Georgia's total allocation of 3.5 million doses -- 978 092 doses -- had been administered, according to the state. The problem has been one of timing. Essentially, by the time the vaccine was widely available, the flu -- and public interest -- had peaked. Neither Georgia nor the nation is seeing a significant increase in swine flu-related deaths, and there is no indication the virus has mutated into a more dangerous form, officials said

National (CDC [edited], March 26): During week 11 (March 14-20, 2010), influenza activity remained at approximately the same levels as last week in the U.S. 139 (4.6%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. Approximately 99% of all subtyped influenza A viruses reported to CDC were 2009 influenza A (H1N1) viruses. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. One influenza-associated pediatric death was reported and was associated with an influenza A

virus for which the subtype was undetermined. The proportion of outpatient visits for influenza-like illness (ILI) was 1.8%, which is below the national baseline of 2.3%. Three of 10 regions (Regions 4, 7, and 9) reported ILI at or above region-specific baseline levels. No states reported widespread influenza activity. Three states reported regional influenza activity. Puerto Rico and eight states reported local influenza activity. The District of Columbia, Guam and 31 states reported sporadic influenza activity. Eight states reported no influenza activity, and the U.S. Virgin Islands did not report.

To access the entire CDC weekly surveillance report, visit http://www.cdc.gov/flu/weekly/fluactivity.htm



From http://www.cdc.gov/h1n1flu/updates/us/#totalcases:

U.S. Influenza and Pneumonia-Associated Hospitalizations and Deaths from Aug 30, 2009–Mar 20, 2010

Cases Defined by	Hospitalizations	Deaths
Influenza Laboratory-Tests**	41,551	2,077

**States report weekly to CDC either 1) laboratory-confirmed influenza hospitalizations and deaths or 2) pneumonia and influenza syndrome-based cases of hospitalization and death resulting from all types or subtypes of influenza. Although only the laboratory confirmed cases are included in this report, CDC continues to analyze data both from laboratory confirmed and syndromic hospitalizations and deaths.

International (WHO, March 26): PANDEMIC (H1N1) 2009: During weeks 9-10, pandemic influenza A (H1N1) 2009 virus activity was variable. Widespread outbreaks of pandemic influenza A (H1N1) 2009 were reported in Mongolia and regional outbreaks were reported in Austria, China, Ecuador, Georgia and Jamaica. Local levels of pandemic influenza A (H1N1) 2009 activity were reported in the Bahamas, Barbados, Bolivia, Brazil, Costa Rica, Cuba, Greece, Nicaragua, Portugal and United States of America.

Sporadic pandemic influenza A (H1N1) 2009 activity was reported in Albania, Australia, Belarus, Bosnia and Herzegovina, Cameroon, Canada, China Hong Kong Special Administrative Region, Chile, Colombia, Croatia, Czech Republic, Denmark, Estonia, El Salvador, France, Germany, Ghana, Hungary, Indonesia, Israel, Japan, Kenya, Latvia, Luxembourg, Madagascar, Nigeria, Norway, Poland, Republic of Korea, Romania, the Russian Federation, Rwanda, Senegal, Serbia, Slovakia, South Africa, Spain, Sweden, Thailand, Tunisia, Uganda, Ukraine, United Kingdom, United Republic of Tanzania and Zambia.

SEASONAL INFLUENZA: Influenza B activity remained high in China, China Hong Kong Special Administrative Region, Iran (Islamic Republic of) and Mongolia. Sporadic seasonal influenza activity was observed in Angola (B), Belgium (B), Cameroon (H3), Canada (B), China (H1,H3), China Hong Kong Special Administrative Region (B), Democratic Republic of the Congo (B), Estonia (B), Ghana (H3), Iran (Islamic Republic of) (H1,H3,B), Italy (B), Japan (H3,B), Kenya (B), Kazakhstan (B), Mongolia (B), Nigeria (H1,B), Republic of Korea (B), Rwanda (H3,B), Russian Federation (H1,H3,B), Senegal (H1,H3), Sweden (B), Thailand (H3), Tunisia (B), Turkey (B), Uganda (H3, B), United Kingdom (B), United Republic of Tanzania (H3,B), United States of America (B) and Zambia (H1,B). Azerbaijan, Bulgaria, Central African Republic, Kyrgyzstan, Mozambique, Netherlands, Slovenia, Switzerland, The Former Yugoslav Republic of Macedonia and Uzbekistan reported no influenza activity.

MDCH reported **SPORADIC INFLUENZA ACTIVITY** to the CDC for the week ending March 27, 2010.

For those interested in additional influenza vaccination and education information, the MDCH *FluBytes* is available at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html.

Novel Influenza Activity and Other News

WHO Pandemic Phase: Phase 6 – characterized by increased and sustained transmission in the general population. Human to human transmission of an animal or human-animal influenza reassortant virus has caused sustained community level outbreaks in at least two WHO regions.

National, Antiviral Resistance (NIH press release [edited], March 26): Two people with compromised immune systems who became ill with 2009 H1N1 influenza developed drug-resistant strains of virus after less than two weeks on therapy, report doctors from the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health. Doctors who treat prolonged influenza infection should be aware that even a short course of antiviral treatment may lead to drug-resistant virus, say the authors, and clinicians should consider this possibility as they develop initial treatment strategies for their patients who have impaired immune function.

Both patients in the new report developed resistance to the key influenza drug oseltamivir (Tamiflu), and one also demonstrated clinical resistance to another antiviral agent, now in experimental testing, intravenous peramivir, note senior authors Matthew J. Memoli, M.D., and Jeffery K. Taubenberger, M.D., Ph.D. This is the first reported case of clinically significant peramivir-resistant 2009 H1N1 illness, say the scientists. The report is scheduled to appear on May 1 in Clinical Infectious Diseases and is now online.

The people in the current case report had immune limitations due to blood stem cell transplants that occurred several years previously. Both recovered from their influenza infections.

"While the emergence of drug-resistant influenza virus is not in itself surprising, these cases demonstrate that resistant strains can emerge after only a brief period of drug therapy," says NIAID Director Anthony S. Fauci, M.D. "We have a limited number of drugs available for treating influenza and these findings provide additional urgency to efforts to develop antivirals that attack influenza virus in novel ways."

The 2009 H1N1 influenza virus is susceptible to just one of the two available classes of anti-influenza drugs, the neuraminidase inhibitors. Besides oseltamivir, other neuraminidase inhibitors are zanamivir (Relenza), which is inhaled, and the intravenously administered investigational drug peramivir. As the H1N1 influenza pandemic unfolded, laboratory tests of virus strains isolated from patients showed that some strains contained a genetic mutation (the H275Y mutation) that makes the virus less susceptible to some neuraminidase inhibitors.

The two people in the current case study had pre-existing medical conditions that impaired their immune system function before contracting 2009 H1N1 flu. Strains of 2009 H1N1 influenza containing the H275Y mutation had been reported previously in people with diminished immune function, but in previous cases the mutation arose after more than 24 days of continuous therapy. In the newly described cases, the mutation appeared after 14 days in one individual and after nine days in the second. "Although the recommended length of treatment with oseltamivir is five days, it is common for physicians to continue giving this first-line drug longer if the patient does not improve," says Dr. Memoli.

Both people in the current report received oseltamivir for extended periods but they continued to shed virus in their nasal secretions throughout treatment. When one patient's condition worsened despite 24 days of oseltamivir treatment, doctors administered peramivir for 10 days. The drug did not reduce viral shedding and the patient remained ill, demonstrating what the authors described as clinically significant resistance to peramivir. Next, doctors administered the only other available flu drug, zanamivir, for 10 days. The person then fully recovered.

"Additional, larger studies are needed to further refine our findings," says Dr. Memoli. "But these cases of rapid appearance of drug-resistant 2009 H1N1 influenza in immune-compromised patients are worrisome and should prompt clinicians to reconsider how they use available flu drugs."

The mutation that allows 2009 H1N1 to resist oseltamivir also significantly reduces the virus's susceptibility to peramivir. If a relatively short course of oseltamivir causes a mutant flu strain to emerge in a particular patient, that person may not respond to peramivir. Zanamivir might be a good choice if a

patient does not respond within a few days to oseltamivir, Dr. Memoli says. However, because zanamivir must be inhaled, patients who are very ill and whose breathing is supported cannot be given zanamivir.

National, Avian Influenza (Johns Hopkins press release [edited], March 29): A new study by researchers at the Johns Hopkins Bloomberg School of Public Health examines the potential influence that the business connections between broiler chicken growers may have on the transmission of avian influenza, H5N1. According to the study, the risk of between-farm transmission is significantly greater among farms within the same company group than it is between farms with different company affiliation. The study is among the first to analyze the impact of company affiliation on the spread of diseases from farm to farm and it appears in the March 26 edition of PLoS One.

"Our analysis indicates that company affiliation is a major driver of farm-based exposure risk to an infection like avian influenza in regions with high-density food animal production. Farms within the same integrator group as an infected farm may face as much as a five-fold increase in exposure risk compared to farms affiliated with a different group," said Jessica Leibler, a doctoral candidate in the Bloomberg School's Sommer Scholars program.

For the study, the Johns Hopkins researchers conducted a nationwide survey of broiler poultry growers to gather information on business practices and determine who visited the farm and how often. Typical contacts included farm workers, feed distributors, waste handlers and social contacts. The data from the survey were used to develop a model to approximate the nature and frequency of contact patterns among poultry farmers. The researchers used the model to analyze how an outbreak of H5N1 at a single farm on the Delaware-Maryland peninsula might spread through the poultry farm-dense region.

Overall, the study found company affiliation to be the greatest driver of farm-to-farm disease transmission risk. In the analysis, employment of part-time workers also contributed to significant increases in risk in most scenarios, most notably for farms that hired day laborers. Social visits to farms were significantly less of a factor in determining risk.

"The economic structure of the poultry industry, specifically integrator-level groups and business practices, may be critically important in estimating the risk of outbreak in areas dominated by industrial-scale animal production," said Ellen Silbergeld, PhD, senior author of study and a professor in the Bloomberg School's Department of Environmental Health Sciences. "Models that focus solely on distance among farms as the primary risk factor for disease transmission may not capture the full dynamics of disease spread in settings where production is dominated by vertically integrated industrial food animal production methods."

International, Human (WHO, March 29): The [Vietnam] Ministry of Health has reported a new confirmed case of human infection with the H5N1 avian influenza virus. This case was confirmed at Pasteur Institute, Ho Chi Minh City. The case was a 3 year old girl residing in Thuan An district, Binh Duong province. She developed symptoms on 5 March 2010 and presented to Thuan An District Hospital and a private health facility for investigation and treatment. On 10 March, she was presented to the Pediatrics Hospital No. 2 where she was suspected to have influenza A (H5N1). Despite treatment, the case died on 17 March. Confirmatory test results for influenza A (H5N1) were also obtained on that day. Of the 117 cases confirmed to date in Viet Nam, 59 have been fatal.

International, Human (WHO, March 30): The Ministry of Health of Egypt has announced two new human cases of A(H5N1) avian influenza infection. The first case was announced on 28 March and is a 30 year-old female from Damietta district, Damietta Governorate. The case was admitted to hospital on 24 March where she received oseltamivir treatment. She is in a critical condition. The second case was announced on 21 March and is a 4 year-old male from Beba district, Beni Suaif Governorate. The case was admitted to hospital on 18 March where he received oseltamivir treatment. He died on 24 March. Investigations into the source of infection indicated that both cases had exposure to sick and dead poultry. The cases were confirmed by the Egyptian Central Public Health Laboratories, a National Influenza Center of the WHO Global Influenza Surveillance Network (GISN). Of the 108 laboratory confirmed cases of Avian influenza A(H5N1) reported in Egypt, 33 have been fatal.

International, Avian (The Poultry Site [edited], March 30): In Nepal, 2 new outbreaks of H5N1 highly pathogenic avian influenza (HPAI) have been reported. The veterinary authority sent 'follow up report no. 2' dated 28 Mar [2010] to the World Organisation for Animal Health (OIE). It reports 2 new cases of HPAI. One of these was in a mixed village flock of 123 backyard chickens, ducks, and pigeons in Tikapur municipality in the region of Seti. Starting on 2 Mar [2010], 40 of the birds died and the remaining birds were destroyed. The 2nd outbreak started 6 days later, on 8 Mar [2010], at Deurali VDC ward No 6 in the

Lumbini region. In a similar mixed flock of 4767 birds, 216 died and the rest were destroyed. The presence of the H5N1 sub-type of the virus has been confirmed.

International, Avian (OIE [edited], April 1): Highly pathogenic avian influenza H5N1; Country: Bulgaria
Date of first confirmation of the event: 01/04/2010; Date of Start of Event: 29/03/2010
Date of report: 01/04/2010; Date Submitted To OIE: 01/04/2010
Province: VARNA; District: Varna; Sub-district: Varn; Location: Constantine & Elena resort
Species: Wild species; Cases: 1; Deaths: 1; Destroyed: 0; Slaughtered: 0
Affected Population: One fallen common buzzard (Buteo buteo)
Source of the outbreak(s) or origin of infection: Unknown or inconclusive
Control Measures Applied: Movement control inside the country, Screening, Zoning
To be applied: No Planned Control Measures; Animals treated: No; Vaccination Prohibited: No

International, Research (www.physorg.com [edited], March 26): Influenza has for years ravaged domesticated chickens. Now scientists suggest that a small piece of duck DNA might protect the farm birds against the virus -- saving commercial flocks and lessening the possibility that humans could be exposed to dangerous strains of the disease.

In a study published online March 22 in *Proceedings of the National Academy of Sciences*, researchers said they've found that a key influenza-fighting gene in wild ducks is absent in chickens. Genetically modifying chickens with a copy of that gene might render them resistant to influenza A, the most common form of flu infecting humans. "If we could shut down influenza (in chickens), it would be of great commercial interest," said lead author Katharine E. Magor, a comparative immunologist at the University of Alberta in Edmonton.

All forms of influenza originate in ducks and other wild birds, which generally carry the virus with no ill effects, releasing it into the environment when they defecate.

Magor had been trying to understand why ducks had such an effective automatic response to influenza when she heard at a conference that chickens lacked a gene called RIG-I. This gene carries the code for a protein that immediately detects the RNA of the influenza virus after the virus invades the duck's lung and tracheal cells. It then sets off a chain reaction inside those cells to help fight off the disease.

Intrigued, she and her colleagues from the University of Alberta and St. Jude Children's Research Hospital in Memphis, Tenn., searched for the RIG-I gene in chickens and failed to find it. Then they inserted the duck gene for RIG-I into embryonic chicken cells to see whether it made the cells immune to infection by influenza viruses.

The scientists infected the chicken cells with two strains: one run-of-the-mill H5N2 virus that lived in but did not harm wild ducks, and a deadly H5N1 strain isolated from a human fatality in Vietnam that was known on occasion to kill ducks as well. "This strain ... kills everything -- chickens in 18 hours, mice, humans -- but the virus didn't kill my ducks," Magor said. The virus didn't kill the chicken cells containing the duck gene, either -- but it did kill normal chicken cells that lacked it.

"This study underscores the importance of this particular gene in fighting viral infections," said Adolfo Garcia-Sastre, a virologist at Mount Sinai School of Medicine in New York, who was not involved in the research. Garcia-Sastre called the potential for creating a transgenic chicken immune to bird flu "a very attractive hypothesis."

Michigan Wild Bird Surveillance (USDA, as of April 1): For the 2009 testing season (April 1, 2009-March 31, 2010), HPAI subtype H5N1 has not been recovered from any of the 111 Michigan samples tested to date, including 58 live wild birds, 39 hunter-killed birds and 14 morbidity/mortality specimens. H5N1 HPAI has not been recovered from 19,104 samples tested nationwide. For more information, visit the National HPAI Early Detection Data System at http://wildlifedisease.nbii.gov/ai/.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at http://www.michigan.gov/emergingdiseases.

Please contact Susan Peters at PetersS1@Michigan.gov with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

Contributors

MDCH Bureau of Epidemiology - Sally Bidol, MPH; Cristi Carlton, MPH; Jamey Hardesty, MPH

MDCH Bureau of Laboratories – Anthony Muyombwe, PhD; Victoria Vavricka, MS

Table 1. H5N1 Influenza in Poultry (Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 3/31/10)

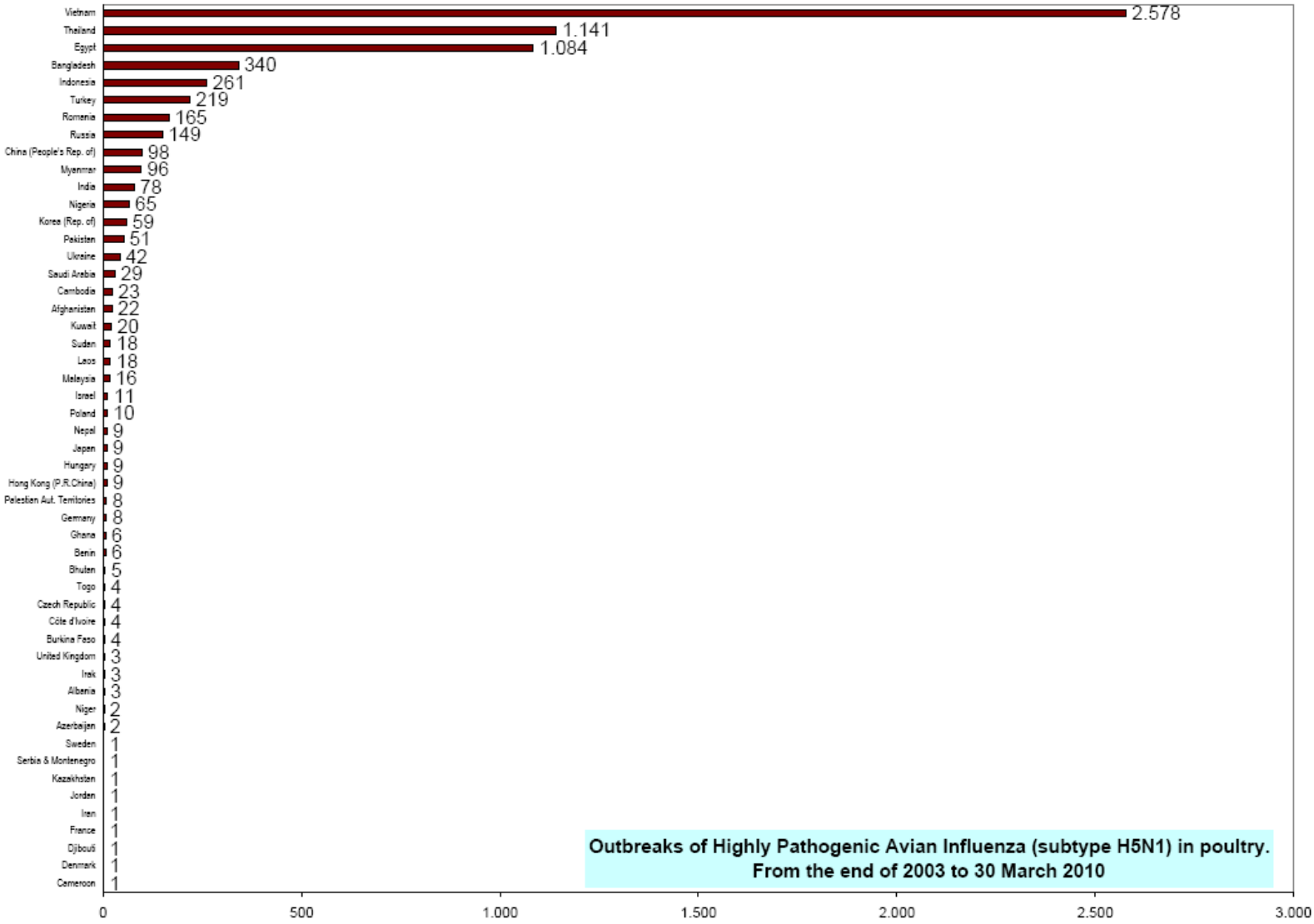


Table 2. H5N1 Influenza in Humans - Cases up to March 30, 2010. http://www.who.int/csr/disease/avian_influenza/country/cases_table_2010_03_30/en/index.html. Downloaded 3/30/2010. Cumulative number of lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		2009		2010		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	1	0	0	0	9	7
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	0	0	38	25
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	39	4	18	6	108	33
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	21	19	1	1	163	135
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	3	2
Lao People's Democratic Republic	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	5	5	5	2	117	59
Total	4	4	46	32	98	43	115	79	88	59	44	33	73	32	24	9	492	291